



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,775	02/25/2004	Daisaku Horie	15162/05690	2835
24367	7590	05/31/2007		
SIDLEY AUSTIN LLP 717 NORTH HARWOOD SUITE 3400 DALLAS, TX 75201			EXAMINER TABATABAI, ABOLFAZL	
			ART UNIT 2624	PAPER NUMBER
			MAIL DATE 05/31/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/786,775

Applicant(s)

HORIE ET AL.

Examiner

Abolfazl Tabatabai

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-23 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

**Claim Rejections - 35 USC § 103**

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 1-7 and 9-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinjo (U. S. 7,092,569 B1) in view of Higashihara et al (U. S. 6,160,581).

Regarding claim 1, Kinjo discloses an object detection apparatus for detecting a target object in an image, comprising:

an image input portion (column 1, lines 53-65) for entering a shot image that is taken by a camera (fig. 1, element 34B; column 11, lines 29-34 and column 13, lines 32-45);

Art Unit: 2624

a plurality of feature detection portions for detecting features of the shot image by using different methods (column 11, lines 1-14; column 15, lines 22-31 and column 17, lines 47-51);

a shooting condition obtaining portion for obtaining information indicating conditions for shooting by the camera (column 11, lines 29-34 and column 12, lines 13-27).

However, Kinjo is silent about the specific details regarding the steps of:

a reliability calculation portion for calculating reliability of the feature that is detected by each of the feature detection portions in the conditions indicated by the information obtained by the shooting condition obtaining portion; and,

an object detection portion for detecting the object in the shot image in accordance with the features detected respectively by one or more of the plural feature detection portions from the shot image and the reliability of the features calculated by the reliability calculation portion.

In the same field endeavor, however, Higashihara discloses camera having adaptive object image display facility comprising the steps of:

a reliability calculation portion for calculating reliability of the feature that is detected by each of the feature detection portions in the conditions indicated by the information obtained by the shooting condition obtaining portion (column 9, lines 20-23); and,

an object detection portion for detecting the object in the shot image in accordance with the features detected respectively by one or more of the plural feature

Art Unit: 2624

detection portions from the shot image and the reliability of the features calculated by the reliability calculation portion (column 3, lines 1-5 and column 9, lines 20-23).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a reliability calculation portion for calculating reliability of the feature that is detected by each of the feature detection portions as taught by Higashihara in the system of Kinjo because Higashihara provides Kinjo an improved camera with an image sensor arranged to convert an object image into a electrical signal and is capable of preventing any unacceptable picture from being taken by processing the signal of the image sensor for a display of an image in such a manner that the image can be displayed in a state nearly equivalent to picture to be taken by exposing a film.

Regarding claim 2, Kinjo discloses the object detection apparatus according to claim 1, wherein the feature detection portion detects the feature as a feature quantity, and the object detection portion detects the object in accordance with the feature quantity of each feature that has a weight corresponding to reliability of each feature (column 18, lines 20-28).

Regarding claim 3, Kinjo discloses the object detection apparatus according to claim 2, wherein the feature detection portion delivers a feature image that indicates a degree of indicating the feature in each pixel of the shot image as a result of detecting the feature quantity of the shot image (column 17, lines 28-36), and the object detection portion detects the object in accordance with the feature image (column 11, lines 1-10).

Regarding claim 4, Kinjo discloses the object detection apparatus according to

Art Unit: 2624

claim 3, further comprising a composite image generation portion for generating a composite image by adding values of corresponding pixels of plural feature images (column 13, lines 19-31), wherein the feature detection portion delivers the feature image for each of the plural sorts of features (column 23, lines 12-19), the composite image generation portion generates the composite image in accordance with each of the plural sorts of feature images (column 13, lines 32-45 and column 23, lines 13-19), and the object detection portion detects the object in accordance with the composite image generated by the composite image generation portion (column 13, lines 32-45 and column 23, lines 13-19).

Regarding claim 5, Kinjo discloses the object detection apparatus according to claim 4, wherein the object detection portion detects a position of the object in accordance with a pixel having a pixel value larger than a predetermined value and pixel values of pixels surrounding said pixel among the pixels of the composite image (column 4, lines 50-56 and column 13, lines 19-31).

Regarding claim 6, Kinjo is silent about the specific details regarding the object detection apparatus according to claim 1, further comprising a reliability memory portion for memorizing the reliability of the feature calculated by the reliability calculation portion, wherein the reliability calculation portion calculates the reliability of the feature at a predetermined timing, and the object detection portion detects the object in the shot image in accordance with the latest feature memorized in the reliability memory portion. In the same field endeavor, however, Higashihara discloses camera having adaptive object image display facility comprises a reliability memory portion for memorizing the

Art Unit: 2624

reliability of the feature calculated by the reliability calculation portion (fig. 5, element 216), wherein the reliability calculation portion calculates the reliability of the feature at a predetermined timing (column 5, lines 35-37 and column 6, lines 64-67), and the object detection portion detects the object in the shot image in accordance with the latest feature memorized in the reliability memory portion (fig. 5, element 211).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a reliability memory portion for memorizing the reliability of the feature calculated by the reliability calculation portion, as taught by Higashihara in the system of Kinjo because Higashihara provides Kinjo an improved camera with an image sensor arranged to convert an object image into a electrical signal and is capable of preventing any unacceptable picture from being taken by processing the signal of the image sensor for a display of an image in such a manner that the image can be displayed in a state nearly equivalent to picture to be taken by exposing a film.

Regarding claim 7, Kinjo is silent about the specific details regarding the object detection apparatus according to claim 1, further comprising a shooting condition memory portion for memorizing information that indicates the conditions obtained by the shooting condition obtaining portion, wherein the reliability calculation portion performs a process for calculating the reliability if a difference between the information indicating the conditions obtained by the shooting condition obtaining portion and the information that is memorized in the shooting condition memory portion and indicates the conditions in the past is larger than a predetermined quantity or a predetermined ratio.

In the same field endeavor, however, Higashihara discloses camera having adaptive

Art Unit: 2624

object image display facility comprises a shooting condition memory portion for memorizing information that indicates the conditions obtained by the shooting condition obtaining portion, wherein the reliability calculation portion performs a process for calculating the reliability if a difference between the information indicating the conditions obtained by the shooting condition obtaining portion and the information that is memorized in the shooting condition memory portion and indicates the conditions in the past is larger than a predetermined quantity or a predetermined ratio (column 9, lines 18-23).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a reliability calculation portion for calculating reliability of the feature that is detected by each of the feature detection portions as taught by Higashihara in the system of Kinjo because Higashihara provides Kinjo an improved camera with an image sensor arranged to convert an object image into a electrical signal and is capable of preventing any unacceptable picture from being taken by processing the signal of the image sensor for a display of an image in such a manner that the image can be displayed in a state nearly equivalent to picture to be taken by exposing a film.

Regarding claim 9, Kinjo discloses the object detection apparatus according to claim 1, wherein the shooting condition obtaining portion obtains information about setting of the camera (column 20, lines 47-50), information about a state of a shooting area of the camera, or information about an object of which the camera takes an image as the information that indicates the conditions (column 11, lines 29-34).



Regarding claim 10, Kinjo discloses an object detection apparatus for detecting a target object in an image, comprising:

- an image input portion (column 1, lines 53-65) for entering a shot image that is taken by a camera (fig. 1, element 34B; column 11, lines 29-34 and column 13, lines 32-45);

- a plurality of feature detection portions for detecting features of the shot image by using different methods; a shooting condition obtaining portion for obtaining information indicating conditions for shooting by the camera (column 11, lines 1-14; column 15, lines 22-31 and column 17, lines 47-51).

However, Kinjo is silent about the specific details regarding the steps of:

- a reliability calculation portion for calculating reliability of the feature that is detected by each of the feature detection portions in the conditions;

- an operation method decision portion for deciding an operation method for detecting the object in accordance with the reliability calculated by the reliability calculation portion, of each feature detected by each of the feature detection portions;

and,

- an object detection portion for detecting the object in the shot image in accordance with the features detected respectively by one or more of the plural feature detection portions and the operation method decided by the operation method decision portion.

In the same field endeavor, however, Higashihara discloses camera having adaptive object image display facility comprising the steps of:

a reliability calculation portion for calculating reliability of the feature that is detected by each of the feature detection portions in the conditions (column 9, lines 20-23);

an operation method decision portion for deciding an operation method for detecting the object in accordance with the reliability calculated by the reliability calculation portion, of each feature detected by each of the feature detection portions (column 7, lines 14-28); and,

an object detection portion for detecting the object in the shot image in accordance with the features detected respectively by one or more of the plural feature detection portions and the operation method decided by the operation method decision portion (column 3, lines 1-5 and column 9, lines 20-23).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a reliability calculation portion for calculating reliability of the feature that is detected by each of the feature detection portions as taught by Higashihara in the system of Kinjo because Higashihara provides Kinjo an improved camera with an image sensor arranged to convert an object image into a electrical signal and is capable of preventing any unacceptable picture from being taken by processing the signal of the image sensor for a display of an image in such a manner that the image can be displayed in a state nearly equivalent to picture to be taken by exposing a film.

Claim 11 similarly analyzes as claim 3 above.

Claim 12 similarly analyzes as claim 4 above.

Claim 13 is similarly analyzes as claim 5 above.

Claim 14 is similarly analyzes as claim 7 above.

Claim 15 is similarly analyzes as claim 9 above.

Claim 16 is similarly analyzes as claim 1 above.

Claim 17 is similarly analyzes as claim 2 above.

Claims 18, 19, 20 and 21 are similarly analyzes as claim 1 above.

Regarding claim 22, Kinjo discloses the monitoring system according to claim 20, further comprising an image display device for display an image area of the object detected by the object detection apparatus after enlarging the image area within the image taken by the video camera (fig. 1,element 20).

Regarding claim 23 Kinjo discloses the monitoring system according to claim 20, further comprising a recording device for recording the image if the object is detected in the image taken by the video camera (column 7, lines 20-22).

### **Allowable Subject Matter**

3. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### **Other Prior Art Cited**

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Azuma et al (U. S. 6,163,337) disclose multi-view point image transmission method and multi-view point image display method.

Art Unit: 2624

Ray et al (U. S. 6,940,545 B1) disclose face detecting camera and method.

Lee et al (U. S. 6,639,998 B1) disclose method of detecting a specific object in an image signal.

Katayama et al (U. S. 6,445,807 B1) disclose image processing method and apparatus.

### **Contact Information**

5. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to ABOLFAZL TABATABAI whose telephone number is (571) 272-7458.

The Examiner can normally be reached on Monday through Friday from 9:30 a.m. to 7:30 p.m. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Bhavesh Mehta, can be reached at (571) 272-7453. The fax phone number for organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Abolfazl Tabatabai

Patent Examiner

Technology Division 2624

May 17, 2007

*A-Tabatabai*

  
BHAVESH M. MEHTA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600